

Claim Amendments

1-9. (canceled)

10. (new) A beverage bottling plant for filling bottles with a liquid beverage filling material, said beverage bottling plant comprising:

a filling machine being configured to fill empty bottles with liquid beverage filling material;

a conveyer arrangement being configured and disposed to move empty bottles to said filling machine;

said beverage filling machine comprising a plurality of beverage filling positions, each beverage filling position comprising a beverage filling device for filling bottles with liquid beverage filling material;

said filling devices comprising apparatus being configured to introduce a predetermined volume of liquid beverage filling material into the interior of bottles to a substantially predetermined level of liquid beverage filling material;

said apparatus being configured to introduce a predetermined volume of liquid beverage filling material comprising apparatus being configured to terminate the filling of beverage bottles upon liquid

beverage filling material reaching said substantially predetermined level in bottles;

a closing station being configured and disposed to close filled bottles;

a conveyer arrangement being configured and disposed to transfer filled bottles from said filling machine to said closing station;

a labeling station being configured and disposed to receive bottles to be labeled;

a conveyer arrangement being configured and disposed to convey bottles to said labeling station;

said labeling station comprising:

a storage being configured and disposed to store a continuous collapsed tube of flat uncut sleeve labels disposed sequentially one after the other;

a mandrel structure;

said mandrel structure being configured to open a continuous collapsed tube of uncut sleeve labels;

said mandrel structure having a receiving end and a discharge end remote from said receiving end;

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a first set of roller apparatus being configured and disposed to advance an opened continuous tube of uncut sleeve labels along said mandrel structure from said receiving end towards said discharge end;

said first set of roller apparatus being disposed adjacent said receiving end of said mandrel structure;

a second set of roller apparatus being configured and disposed to advance an opened continuous tube of uncut sleeve labels along said mandrel structure to said discharge end;

said second set of roller apparatus being disposed between said first set of roller apparatus and said discharge end of said mandrel structure;

apparatus being configured and disposed to cut an opened sleeve label from an opened continuous tube of uncut opened sleeve labels to thus produce a cut opened sleeve label for a bottle disposed at said discharge end of said mandrel structure;

said cutting apparatus comprising a rotating disc having at least one sleeve cutting knife operatively connected thereto;

each said at least one sleeve cutting knife being

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configured and disposed to be moved between a position of rest and a position of cutting;

each said at least one sleeve cutting knife comprises a portion configured to move said at least one sleeve cutting knife into the cutting position, and also comprises a structure to move said at least one sleeve cutting knife into the rest position;

said cutting apparatus also comprising at least one electromagnet configured and disposed to move said at least one sleeve cutting knife into the cutting position;

said cutting apparatus being disposed between said first set of roller apparatus and said second set of roller apparatus;

said mandrel structure comprising an expander apparatus being configured and disposed to sufficiently expand a portion of an uncut opened sleeve label, immediately adjacent said cutting apparatus, between said first set of roller apparatus and said second set of roller apparatus, to make taut a portion of an opened tube of uncut opened sleeve labels adjacent said cutting apparatus and thus to minimize bunching of an opened continuous tube of uncut opened sleeve labels on said mandrel

structure, and also to maximize precision of the cut being effectuated by said cutting apparatus; and

said second set of roller apparatus also being configured and disposed to remove a cut opened sleeve label from said mandrel structure with sufficient velocity and to position a cut opened sleeve label about a bottle disposed at said discharge end of said mandrel structure, and thus to permit a constant cut of a sleeve label being cut and elevated cutting speeds to afford shorter cycle times;

a gripper arrangement being configured and disposed to grip an opened sleeve label cut by said cutting apparatus and to dispose a cut opened sleeve label about a bottle to be labeled;

said gripper arrangement comprising:

a base structure;

a first gripper jaw and a second gripper jaw;

each gripper jaw being configured to grip a cut opened sleeve in its opened condition;

each gripper jaw being configured to be connected to said base structure;

a first support structure being configured and disposed to connect said first gripper jaw to said base structure;

a second support structure being configured and disposed to connect said second gripper jaw to said base structure;

each support structure comprising a locating bolt being configured and disposed to connect its corresponding support structure for rotation at said base structure and to permit movement of said gripper jaws into a position wherein a cut opened sleeve label is gripped by said gripper jaws and also into a position wherein a cut opened sleeve label is released from said gripper jaws;

each support structure comprising a guide pin being configured and disposed to connect its corresponding gripper jaw portion to its corresponding support structure;

an actuator arrangement being configured and disposed to actuate said guide pins to move said gripper jaws into a position wherein a cut opened sleeve label is gripped by said gripper jaws and also into a position wherein a cut opened sleeve label is released from said gripper jaws;

each gripper jaw having a slot-type passage being configured and disposed to permit adjusting of its corresponding gripper jaw;

each support structure comprising a passage having a diameter;

each gripper jaw slot-type passage being configured to be aligned with its corresponding support structure passage to permit adjustment of its corresponding gripper jaw;

each support structure comprising a stud being configured to be fixedly disposed in said support structure passage and to extend through said gripper jaw slot-type passage of its corresponding gripper jaw to secure its corresponding gripper jaw to its corresponding support structure subsequent to adjustment of a corresponding gripper jaw;

each gripper jaw comprising:

an adjustment structure being configured and disposed to adjust its corresponding gripper jaw between an initial position and a final position, which final position being a position configured to minimize misalignment of a cut

opened sleeve about a bottle to be labeled; and
each support structure further comprising:

a securing structure being configured and disposed to
secure its corresponding gripper jaw to its corresponding
support structure subsequent to movement of each gripper
jaw into said final gripper jaw position by its corresponding
adjustment structure; and

said labeling station further comprising:

apparatus being configured and disposed to secure a cut
opened sleeve label, positioned by said gripper arrangement
about a bottle, to the surface of a bottle to be labeled.

11. (new) The beverage bottling plant for filling bottles,
according to claim 10, wherein:

said gripper arrangement comprises an arrangement being
configured and disposed to move said gripper arrangement to permit
positioning of an open sleeve label about a bottle to be labeled.

12. (new) The beverage bottling plant for filling bottles,

according to claim 11, wherein:

said first gripper jaw and said second gripper jaw are configured and disposed to hold and to release a sleeve label at the inside of a sleeve label.

13. (new) The beverage bottling plant for filling bottles according to claim 12, comprising at least one of (a) and (b), wherein (a) and (b), comprise:

(a) said first gripper jaw and said second gripper jaw are configured to grip one of (i) and (ii), wherein (i) and (ii) comprise:

(i) a shrink-sleeve label; and

(ii) a stretch-sleeve label; and

(b) said adjustment structure comprises at least one of (iii), (iv), (v), and (vi), wherein (iii), (iv), (v), and (vi) comprise:

(iii) a screw being configured and disposed to be in contact with said fixed stud and to move its corresponding gripper jaw between a first position and a second position, which second gripper jaw position being a position

configured to minimize misalignment of a cut opened sleeve gripped by said gripper jaws; and

a spring being configured and disposed to exert a bias on said screw and its corresponding gripper jaw;

(iv) a pinion gear and a pinion rack for each gripper jaw;

each said pinion gear with its corresponding pinion rack is configured and disposed to adjust its corresponding gripper jaw to minimize misalignment of a sleeve label about a bottle to be labeled;

(v) a planar spacer element and an abutment structure for each gripper jaw;

each said planar spacer element with its corresponding abutment structure is configured and disposed to adjust its corresponding gripper jaw to minimize misalignment of a sleeve label about a bottle to be labeled; and

said planar spacer element comprises sheet metal;
and

(vi) a check structure, a plurality of spacer rings, and a receiver structure configured to receive said spacer rings; and

each said check structure with its corresponding plurality of spacer rings, and with its corresponding receiver structure is configured to adjust its corresponding gripper jaw to minimize misalignment of a sleeve label about a bottle to be labeled.

14. (new) A method of operating a container filling plant container labeling station having a sleeve label adding arrangement, configured to add a label to a container, said container labeling station comprising:

an arrangement being configured and disposed to open a continuous tube of uncut sleeve labels;

apparatus being configured and disposed to advance a tube of sleeve labels;

apparatus being configured and disposed to cut a sleeve label from a tube of uncut sleeve labels; and

a sleeve label adding arrangement being configured and disposed to add an open sleeve label about a container to be labeled;

said sleeve label adding arrangement comprising:

a sleeve label holding and releasing structure comprising a first portion and a second portion together being configured and disposed to permit holding open of an open sleeve label and to permit releasing of an open sleeve label about a container to be labeled;

said first portion being configured and disposed to hold and to release a first portion of an open sleeve label;

said second portion being configured and disposed to hold and to release a second, different, portion of an open sleeve label; and

an adjustment and securing arrangement being configured and disposed to adjust and then to secure said sleeve label holding and releasing structure in a position configured to minimize misalignment of a sleeve label about a container; said method comprising the steps of:

adjusting the position of said first and second holding and releasing portions with said adjustment arrangement to minimize misalignment of a sleeve label about a container;

securing said adjusted position of said first and second holding and releasing portions;

opening a continuous collapsed tube of uncut sleeve labels;

advancing a continuous tube of sleeve labels;

cutting a sleeve label;

holding an open sleeve label with said first and second holding and releasing portions;

positioning an open sleeve label about a container to be labeled with said first and second holding and releasing portions; and

releasing an open sleeve label from said first and second holding and releasing portions.

15. (new) The method of operating a container filling plant container labeling station having a sleeve label adding arrangement, according to claim 14, wherein:

said sleeve label adding arrangement comprises an arrangement being configured and disposed to move said sleeve label holding and releasing structure to permit positioning of an open sleeve label about a container to be labeled;

said method comprising the step of:

moving said sleeve label holding and releasing structure.

16. (new) The method of operating a container filling plant container labeling station having a sleeve label adding arrangement, according to claim 15, comprising at least one of: (a), (b), (c), and (d), wherein (a), (b), (c), and (d) comprise:

(a) said adjustment arrangement is configured and disposed to position and then to secure at least one of: (i) said first sleeve label holding and releasing portion, and (ii) said second sleeve label holding and releasing portion, to minimize misalignment of a sleeve label about a container; and

said method comprises the steps of:

positioning and then securing at least one of (i) and (ii) to

minimize misalignment of a sleeve label about a container to be labeled;

(b) said first sleeve label holding and releasing portion and said second sleeve label holding and releasing portion are configured and disposed to hold a sleeve label at the inside of a sleeve label and to release a sleeve label; and

said method comprises the steps of:

holding a sleeve label at the inside of a sleeve with said first sleeve label holding and releasing portion and said second sleeve label holding and releasing portion; and

releasing a sleeve label at the inside from said first sleeve label holding and releasing portion and said second sleeve label holding and releasing portion;

(c) said adjustment arrangement is configured and disposed to position and to retain said first holding and releasing portion and said second holding and releasing portion at a distance from one another to minimize misalignment of a sleeve label about a container; and

said method comprises the steps of:

positioning said first holding and releasing portion and said

second holding and releasing portion at a distance from one another; and

retaining said first holding and releasing portion and said second holding and releasing portion at a distance from one another to minimize misalignment of a sleeve label about a container to be labeled; and

(d) said first and second holding and releasing portions are configured to be independently adjustable by said adjustment arrangement to permit gripping of one of: a shrink-sleeve label and a stretch-sleeve label;

said adjustment arrangement comprises an arrangement being configured and disposed to secure each holding and releasing portion independently of one another; and

said method comprises the steps of:

adjusting said first holding and releasing portion with said adjustment arrangement to permit gripping of one of: said shrink-sleeve label and said stretch-sleeve label;

adjusting said second holding and releasing portion with said adjustment arrangement to permit gripping of one of: said

shrink-sleeve label and said stretch-sleeve label; and

securing said first holding and releasing portion and said second holding and releasing portion with said arrangement being configured and disposed to secure each holding and releasing portion independently of one another.

19. (new) The method of operating a container filling plant container labeling station having a sleeve label adding, according to claim 18, comprising at least one of (a), (b), (c), and (d) wherein (a), (b), (c), and (d) comprise:

(a) said adjustment arrangement comprises a screw and a stop structure for each holding and releasing portion;

each said screw with its corresponding stop structure is configured and disposed to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container;

said method comprises the step of:

rotating a screw against its corresponding stop structure to adjust its corresponding holding and releasing portion to

minimize misalignment of a sleeve label about a container to be labeled;

(b) said adjustment arrangement comprises a pinion gear and a pinion rack for each holding and releasing portion;

each said pinion gear with its corresponding pinion rack is configured and disposed to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container;

said method comprises the step of:

rotating a pinion gear to adjust its corresponding holding and releasing portion;

(c) said adjustment arrangement comprises a planar spacer element and an abutment structure for each holding and releasing portion;

each said planar spacer element with its corresponding abutment structure is configured and disposed to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container; and

said planar spacer element comprises sheet metal;

said method comprises the step of:

positioning a planar spacer element against its
corresponding abutment structure to minimize misalignment of a
sleeve label about a container; and

(d) said adjustment arrangement comprises a check structure, a
plurality of spacer rings, and a receiver structure configured to
receive said spacer rings;

each said check structure with its corresponding plurality of
spacer rings, and with its corresponding receiver structure is
configured to adjust its corresponding holding and releasing portion to
minimize misalignment of a sleeve label about a container;

said method comprises the steps of:

selecting a plurality of spacer rings; and

positioning a plurality of spacer rings on its corresponding
receiver structure and against its corresponding check structure.

20. (new) A container filling plant container labeling station
having a sleeve label adding arrangement, configured to add a label
to a container, said container labeling station comprising:

an arrangement being configured and disposed to open a continuous tube of uncut sleeve labels;

apparatus being configured and disposed to advance a tube of sleeve labels;

apparatus being configured and disposed to cut a sleeve label from a tube of uncut sleeve labels;

a sleeve label adding arrangement being configured and disposed to add an open sleeve label about a container to be labeled; and

said sleeve label adding arrangement comprising:

a sleeve label holding and releasing structure comprising a first portion and a second portion together being configured and disposed to permit holding open of an open sleeve label and to permit releasing of an open sleeve label about a container to be labeled;

said first portion being configured and disposed to hold and to release a first portion of an open sleeve label;

said second portion being configured and disposed to hold and to release a second, different, portion of an open sleeve

label; and

an adjustment and securing arrangement being configured and disposed to adjust and then to secure said sleeve label holding and releasing structure in a position configured to minimize misalignment of a sleeve label about a container.

21. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 20, wherein:

said sleeve label adding arrangement comprises an arrangement being configured and disposed to move said sleeve label holding and releasing structure to permit positioning of an open sleeve label about a container to be labeled.

22. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 21, wherein:

said adjustment arrangement is configured and disposed to position and then to secure at least one of: (i) said first sleeve label

holding and releasing portion, and (ii) said second sleeve label holding and releasing portion, to minimize misalignment of a sleeve label about a container; and

said first sleeve label holding and releasing portion and said second sleeve label holding and releasing portion are configured and disposed to hold a sleeve label at the inside of a sleeve label and to release a sleeve label.

23. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 22, wherein:

said adjustment arrangement is configured and disposed to position and to retain said first holding and releasing portion and said second holding and releasing portion at a distance from one another to minimize misalignment of a sleeve label about a container.

24. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 23, wherein:

said first and second holding and releasing portions are configured to be independently adjustable by said adjustment arrangement to permit gripping of one of: a shrink-sleeve label and a stretch-sleeve label; and

said adjustment arrangement comprises:

an arrangement being configured and disposed to secure each holding and releasing portion independently of one another.

25. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 24, wherein:

said adjustment arrangement comprises a screw and a stop structure for each holding and releasing portion; and

each said screw with its corresponding stop structure is configured and disposed to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container.

26. (new) The container filling plant container labeling station

having a sleeve label adding arrangement, according to claim 25,
wherein:

said screw comprises a stud screw and said stop structure
comprises a stud.

27. (new) The container filling plant container labeling station
having a sleeve label adding arrangement, according to claim 24,
wherein:

said adjustment arrangement comprises a pinion gear and a
pinion rack for each holding and releasing portion; and

each said pinion gear with its corresponding pinion rack is
configured and disposed to adjust its corresponding holding and
releasing portion to minimize misalignment of a sleeve label about a
container.

28. (new) The container filling plant container labeling station
having a sleeve label adding arrangement, according to claim 24,
wherein:

said adjustment arrangement comprises a planar spacer element

and an abutment structure for each holding and releasing portion;

each said planar spacer element with its corresponding abutment structure is configured and disposed to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container; and

said planar spacer element comprises sheet metal.

29. (new) The container filling plant container labeling station having a sleeve label adding arrangement, according to claim 24, wherein:

said adjustment arrangement comprises for each holding and releasing portion: a check structure, a plurality of spacer rings, and a receiver structure configured to receive said spacer rings; and

each said check structure with its corresponding plurality of spacer rings, and with its corresponding receiver structure is configured to adjust its corresponding holding and releasing portion to minimize misalignment of a sleeve label about a container.